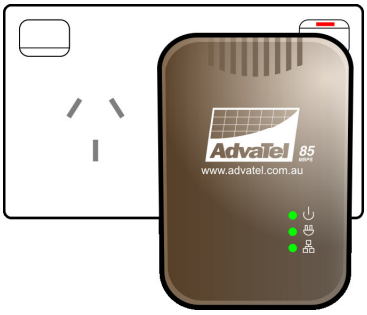
PowerLine 85 Ethernet Adapter

Model: PL85/230-ETH



User's Manual

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1. INTRODUCTION

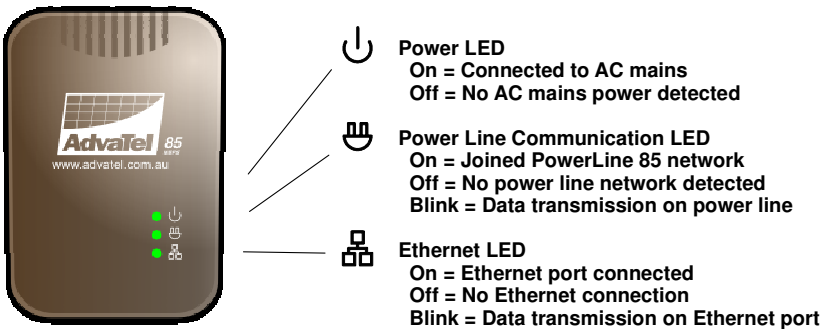
Connecting multiple computing devices together to establish a LAN (Local Area Network) using mains electrical wiring is now as simple as 1-2-3. The AdvaTel PowerLine 85 Ethernet Adapter is ideal for providing information and sharing resources – such as documents, mp3s, videos, games, printers, and scanners – without installing new network cabling. Whether you are connecting two computers together or extending your existing network, the AdvaTel PowerLine 85 Ethernet Adapter is simple to setup and simple to use.

Please take a moment to read through this manual and familiarise yourself with the AdvaTel PowerLine 85 Ethernet Adapter technology.

All AdvaTel PowerLine 85 Ethernet Adapters are designed and manufactured to meet industry specifications and world-class quality standards. We are confident that your purchase will meet your exacting standards.

LED Indicators

Before installing your PowerLine 85 Ethernet Adapter, take a moment to examine the diagram below. The LED indicators provide important status information.


AdvaTel 85
www.advatel.com.au
Power LED
On = Connected to AC mains
Off = No AC mains power detected
Power Line Communication LED
On = Joined PowerLine 85 network
Off = No power line network detected
Blink = Data transmission on power line
Ethernet LED
On = Ethernet port connected
Off = No Ethernet connection
Blink = Data transmission on Ethernet port

2. IMPORTANT SAFETY INFORMATION

This product is intended for connection to mains electrical wiring. The following precautions should be taken when using this product:

- Read all instructions before installing and operating this product.
- Follow all warnings and instructions.
- Do not operate this product near water.
- This product relies on a building's electrical installation for short-circuit (over current) protection. Ensure that a fuse or circuit breaker not exceeding 15A is used on the phase conductors (all current-carrying conductors).
- Do not allow anything to rest on the product. Allow space for ventilation.
- Do not locate or operate this product where connections to it are subject to physical stress.
- PowerLine 85 Ethernet Adapters should be plugged directly into a wall mounted mains power point.
- This product does not contain user serviceable parts. Do not open the unit. Opening the unit or removing its cover will result in exposure to dangerous voltages. Return to AdvaTel for servicing. Opening the unit voids product warranty.
- Turn off mains power before unplugging the PowerLine 85 Ethernet Adapter from the wall outlet in the following conditions. Contact AdvaTel for product servicing:
    - If liquid has been spilled onto the product.
    - If the product has been exposed to rain or water.
    - If the product does not operate normally when the operating instructions have been followed.
    - If the product exhibits a distinct change in performance.

3. GETTING STARTED

The PowerLine 85 Ethernet Adapter Starter Kit contains the following items:

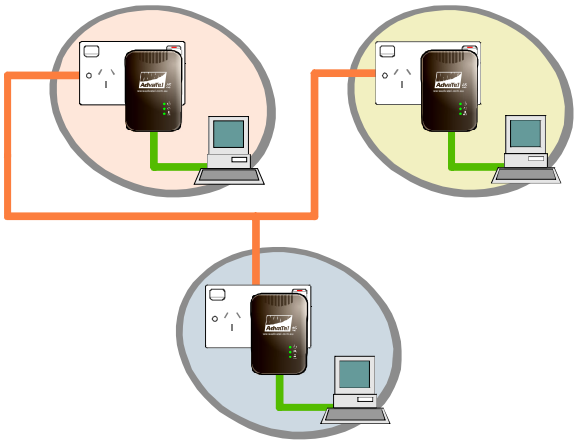
- Two (2) PowerLine 85 Ethernet Adapters
- Two (2) Ethernet Cables
- One (1) Installation Resource CD
- One (1) Quick Installation Guide
- One (1) Warranty Information Card

IMPORTANT: After receiving the product, please check for any shipping damage before proceeding with installation. Do not install the product if there is any damage that may render the product unsafe.

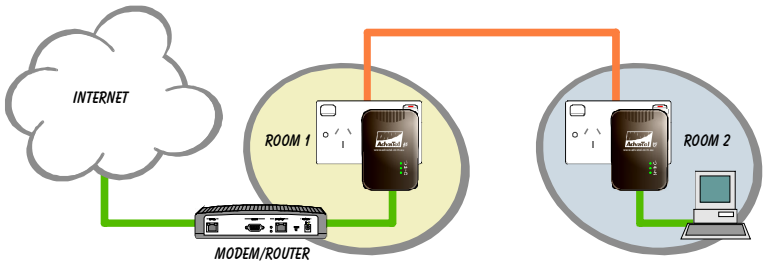
To begin, sketch a layout of your LAN (Local Area Network) on a sheet of paper. This will help you visualize your LAN.

Depending on what you want to do with your network, the layout of your LAN can vary. To assist you, select the appropriate statement below that best describes the type of network you want to build. Sample diagrams illustrate each scenario:

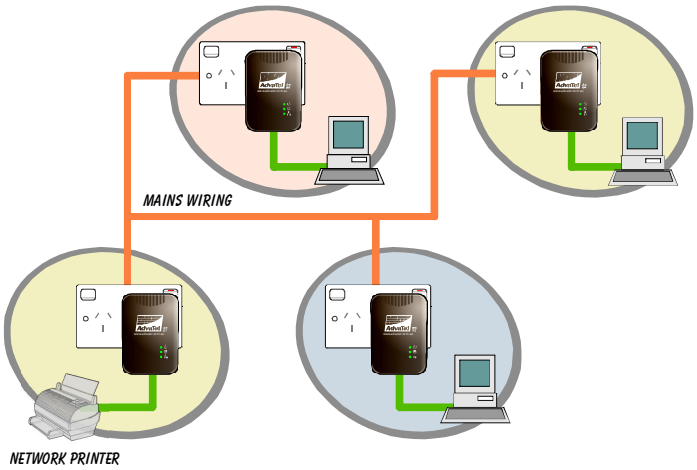
"I want to connect two or more computers together"



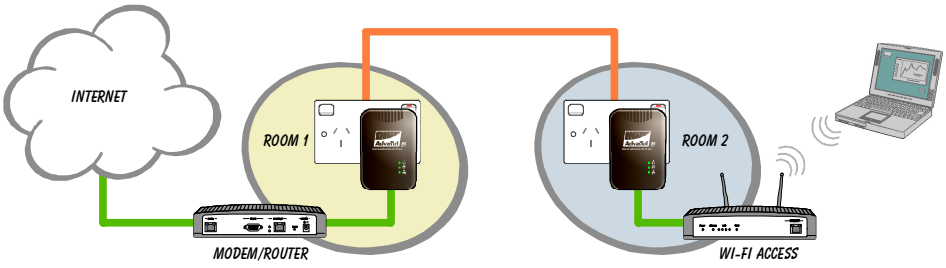
“I want to use my broadband Internet connection from another room”



“I want to share a network printer between multiple computers”



“I want to site my broadband Wi-Fi access point at a better location”



4. INSTALLING POWERLINE 85 ETHERNET ADAPTER

AdvaTel PowerLine 85 Ethernet Adapters plug into wall mounted mains power points for connecting Ethernet enabled devices over internal electrical wiring. It is suitable for use between computers, routers, switches, hubs, access points, and gaming consoles.

IMPORTANT:

- **The adapter is for indoor use only**
- **Data rates may vary depending on the premises mains electricity wiring**
- **For best performance plug the adapter directly into a wall mounted mains power point. Avoid plugging the adapter into power boards, surge protectors, and extension cords.**

Step 1 – Connect to Mains

Plug each adapter into a wall mounted power point located near the equipment to be connected. Check that the Power LED (top) on the adapter is lit to indicate a connection to mains power.

Step 2 – Check Communication

When plugging in the second (or an additional) adapter. check that the Power Line Communication LED (middle) lights to indicate connection between adapters. It takes a few seconds to stabilise after the adapter is first plugged in. If the PCL remains off after a minute or two then the unit has failed to find other adapters in the same network. This may be due to an incorrect Private Network Name being set (see Privacy section below) or because of unsuitable mains wiring.

Step 3 – Connect to Ethernet

Next, connect the Ethernet cable between the adapter and your Ethernet device at each location. The Ethernet indicator (bottom) lights to show successful cable connection.

Privacy

The PowerLine 85 Ethernet Adapter uses its Network Name as the password key to encrypt data. A public Network Name (HomePlug) is set as default during manufacture. This

enables all PowerLine 85 Ethernet Adapters to connect to each other immediately after purchase. For privacy, a Private Network Name can be set using the PowerLine 85 Utility (found on the Installation Resource CD).

Technical Support

Support resources are available on the web at http://www.advatel.com.au/support.

5. POWERLINE 85 UTILITY

System Requirements

- Computer with an Ethernet Network Interface Card (NIC)
- 32 MB of free RAM
- 10 MB of available hard disk space
- CD-ROM Drive
- Windows® 98SE, ME, 2000, XP Operating System

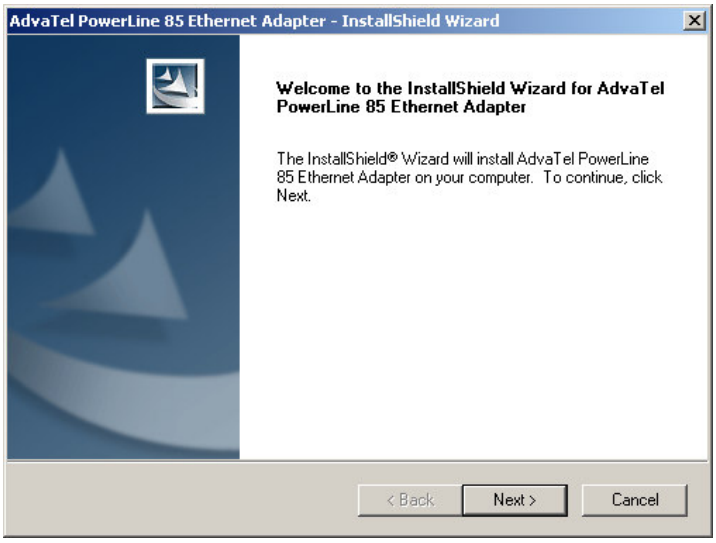
Installing PowerLine 85 Utility

Step 1

Insert the Installation Resource CD; it should start automatically. If the installation program does not start automatically, start the application by clicking on the <Start> menu, select <Run> and choose <Browse>, look at the CD-ROM drive, click on 'setup.exe', and select <OK>.

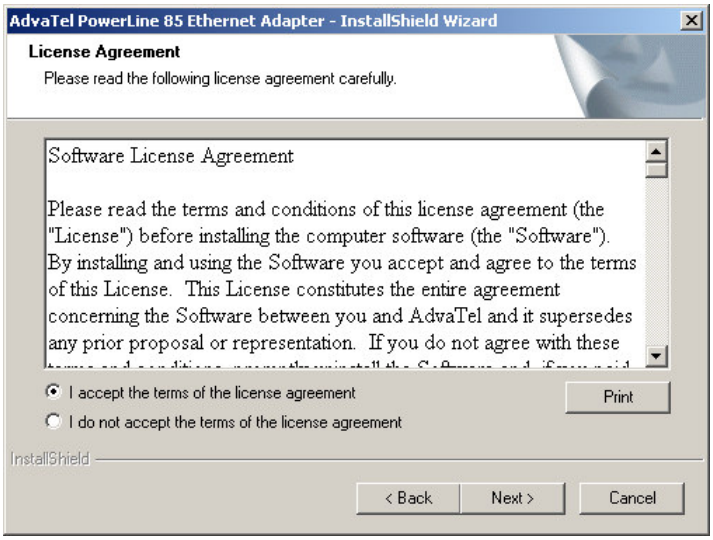
Step 2

Click <Next> to start installation.


AdvaTel PowerLine 85 Ethernet Adapter - InstallShield Wizard
Welcome to the InstallShield Wizard for AdvaTel PowerLine 85 Ethernet Adapter
The InstallShield® Wizard will install AdvaTel PowerLine 85 Ethernet Adapter on your computer. To continue, click Next.
< Back
Next >
Cancel

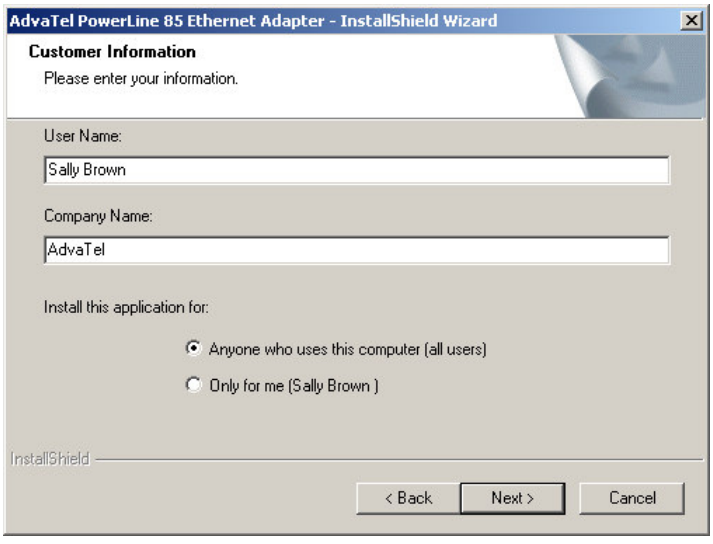
Step 3

The copyright notice is displayed. Select <I Accept…> if the terms are acceptable then <Next> to continue.


AdvaTel PowerLine 85 Ethernet Adapter - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Software License Agreement
Please read the terms and conditions of this license agreement (the "License") before installing the computer software (the "Software"). By installing and using the Software you accept and agree to the terms of this License. This License constitutes the entire agreement concerning the Software between you and AdvaTel and it supersedes any prior proposal or representation. If you do not agree with these
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

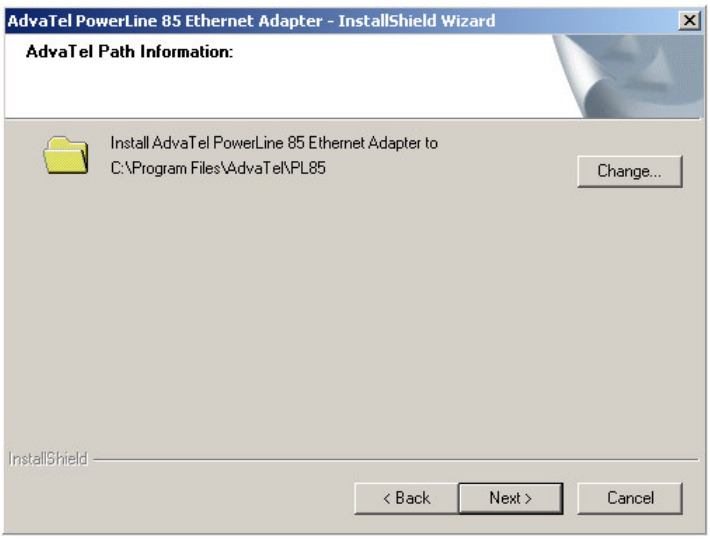
Step 4

Enter your details in the customer information screen, select an installation option then click <Next> to continue.



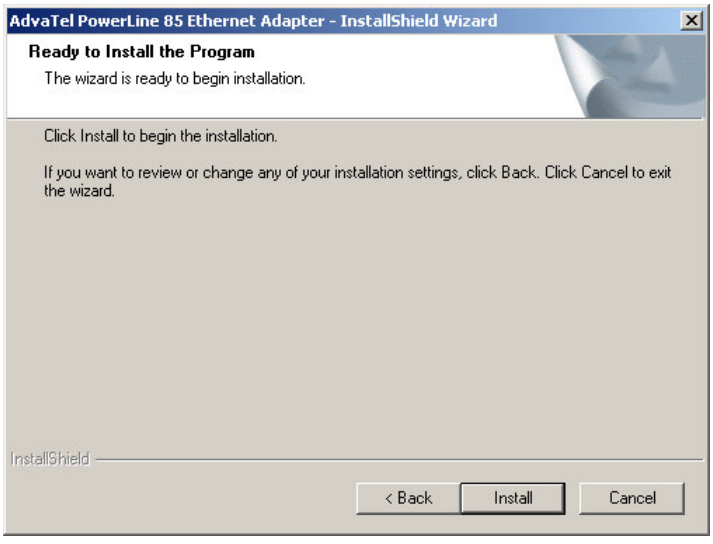
Step 5

The default installation path is shown. Alternatively click <Change> to browse to another folder. Click <Next> to continue.



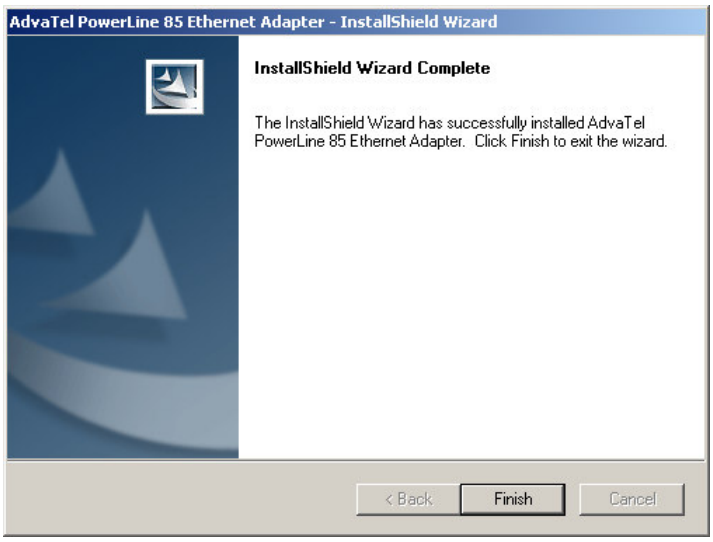
Step 6

The installation wizard is now ready to install the PowerLine 85 Utility. Click <Install> to commence installation.


AdvaTel PowerLine 85 Ethernet Adapter - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Step 7

When the installation wizard completes click <Finish> to end.


AdvaTel PowerLine 85 Ethernet Adapter - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed AdvaTel PowerLine 85 Ethernet Adapter. Click Finish to exit the wizard.
< Back
Finish
Cancel

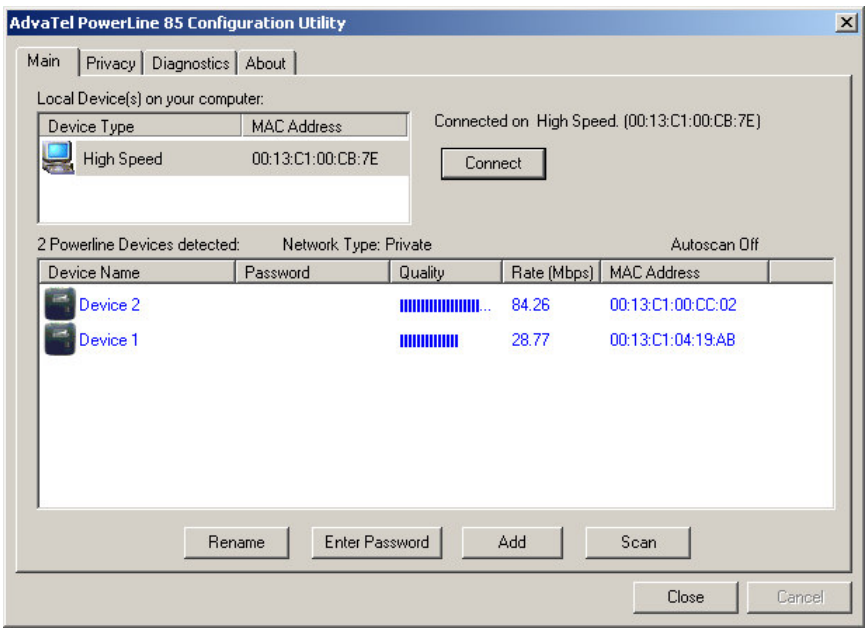
Using PowerLine 85 Utility

The PowerLine 85 Utility allows the user to set up a private secure power line network and provides useful diagnostic tools.

IMPORTANT – Secure your PowerLine 85 network after first installation by setting a Private Network Name. This prevents others from joining your network.

Connect the PowerLine 85 Utility PC to a PowerLine 85 Ethernet Adapter. Start the PowerLine 85 Utility from the <Start> menu by selecting <Programs — AdvaTel — PowerLine 85 Utility> or by clicking on its shortcut installed onto the desktop.

Main Tab



- The PowerLine 85 Utility takes a few seconds to scan the network and report on the quality of communications between the local adapter and other adapters in the same network (if any).

- The MAC address for each unit is shown. You can identify an adapter by its MAC address on the product label.

- The Local Device panel shows the adapter directly connected to the PowerLine 85 Utility PC.

- The Powerline Devices Detected panel shows details for other adapters in the same network. The example above shows a network of three adapters. The individual bit rates are useful for diagnosing slow transfer speeds. Connection speeds are updated when this screen is selected and then again when the <Scan> button is pressed. T

- From the Main Tab you can optionally select a remote adapter and rename it as required (eg Study) to provide better location information.

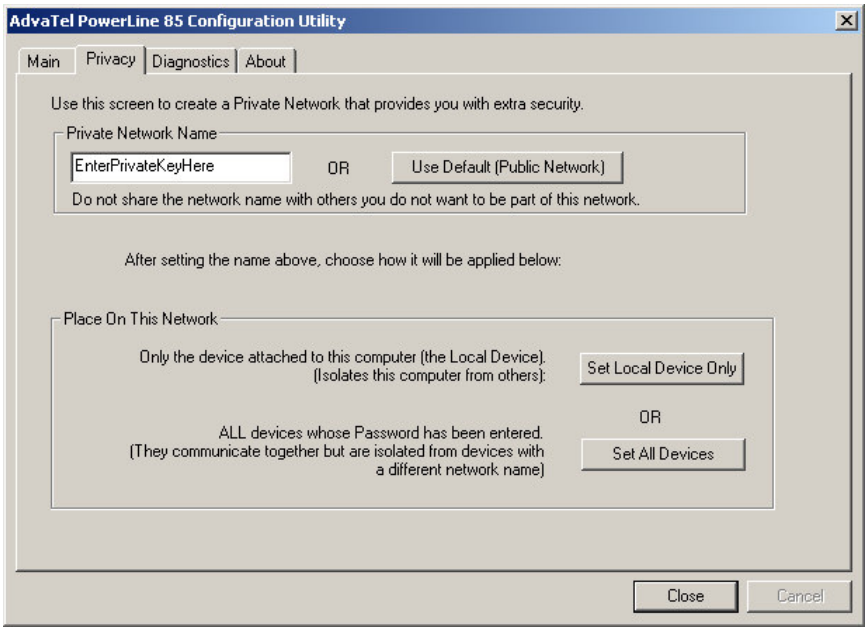
- A password for an adapter can be found on the unit's product label. You can optionally enter an adapter's password into the PowerLine 85 Utility to allow remote management for that adapter.

- Where adapter passwords have been entered into the PowerLine 85 Utility, subsequent changes to the Private Network Name can be made to all units with a single command (see Privacy Tab).

- A remote adapter not previously configured with the network's Private Network Name can be added to the network by using the <Add> function. The adapter password is required.

- If a password has not been entered for a remote adapter then its Network Name can only be set by directly connecting the adapter to the PowerLine 85 Utility PC and using the <Set Local> function in the Privacy Tab.

Privacy Tab

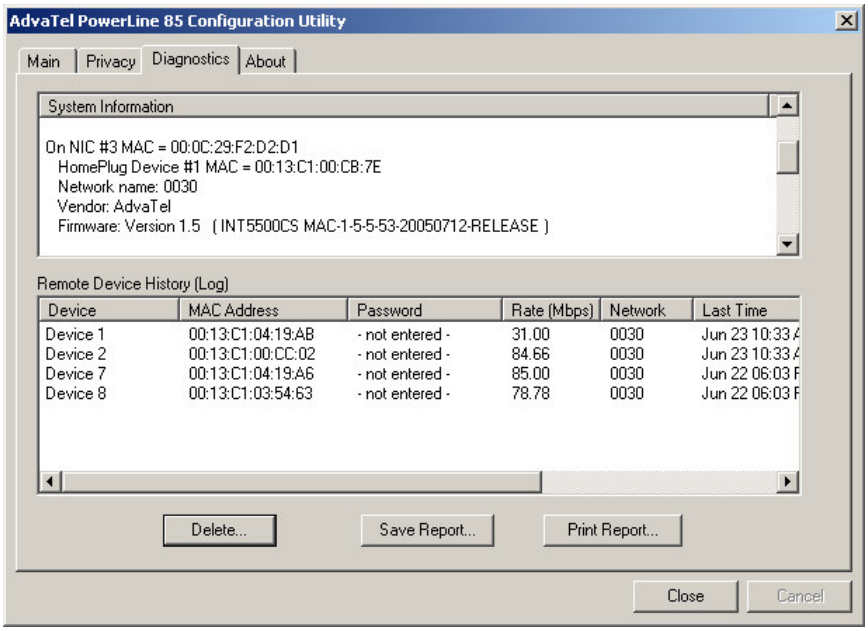

AdvaTel PowerLine 85 Configuration Utility
Main
Privacy
Diagnostics
About
Use this screen to create a Private Network that provides you with extra security.
Private Network Name
EnterPrivateKeyHere
OR
Use Default (Public Network)
Do not share the network name with others you do not want to be part of this network.
After setting the name above, choose how it will be applied below:
Place On This Network
Only the device attached to this computer (the Local Device).
(Isolates this computer from others):
Set Local Device Only
OR
ALL devices whose Password has been entered.
(They communicate together but are isolated from devices with a different network name)
Set All Devices
Close
Cancel

- From this tab you can choose to enter a Private Network Name or use the default network name (HomePlug), then set it to the local adapter or to all adapters in the network (requires adapter password – refer to discussion under Main Tab).

- The Private Network Name can be between 4 and 24 characters long, and is case sensitive. A longer name provides better security.

- A step-by-step guide to setting the Private Network Name can be found in the Chapter 6, “Setting Up Your Encryption Password”.

Diagnostics Tab


AdvaTel PowerLine 85 Configuration Utility
Main
Privacy
Diagnostics
About
System Information
On NIC #3 MAC = 00:0C:29:F2:D2:D1
HomePlug Device #1 MAC = 00:13:C1:00:CB:7E
Network name: 0030
Vendor: AdvaTel
Firmware: Version 1.5 (INT5500CS MAC-1-5-5-53-20050712-RELEASE)
Remote Device History (Log)
Device
MAC Address
Password
Rate (Mbps)
Network
Last Time
Device 1 00:13:C1:04:19:AB - not entered - 31.00 0030 Jun 23 10:33 A
Device 2 00:13:C1:00:CC:02 - not entered - 84.66 0030 Jun 23 10:33 A
Device 7 00:13:C1:04:19:A6 - not entered - 85.00 0030 Jun 22 06:03 F
Device 8 00:13:C1:03:54:63 - not entered - 78.78 0030 Jun 22 06:03 F
Delete...
Save Report...
Print Report...
Close
Cancel

In the top section of the Diagnostic Tab information for the PC’s Ethernet interfaces and locally attached adapters is shown. The bottom section is a log of remote adapters which have been previously detected by the PowerLine 85 Utility.

6. SETTING UP YOUR ENCRYPTION PASSWORD

IMPORTANT – The Network Name set in the Privacy Tab is used as the encryption password. A Private Network Name can be between 4 and 24 characters long and is case sensitive. A longer name provides better security.

IMPORTANT – All adapters in the same network must have the same Network Name.

Setting the Private Network Name for a directly connected adapter

- Plug the adapter into a mains power point
- Connect the adapter to the PowerLine 85 Utility PC
- Start the PowerLine 85 Utility
- Select the Privacy Tab
- Type your Private Network Name in the “Private Network Name” text box
- Click the <Set Local> button

Setting the Private Network Name for a remote adapter

- Make a note of the password for the remote adapter from its product label
- Plug the adapter into a mains power point
- Start the PowerLine 85 Utility
- Select the Main Tab
- Select <Add>
- Enter a descriptive name for the adapter then its password
- Click <OK> to add the adapter to the network
- Select <Scan> to confirm addition as required.

7. SPECIFICATIONS

Standards Compliance

- HomePlug® 1
- IEEE 802.3

Network Protocol

- Layer 2 (including TCP/IP)

Network Interface:

- 10/100BaseT, auto detect, auto MDI/MDI-X

Network Socket:

- RJ-45 (CAT5)

Bandwidth

- Power Line Communications 85 Mbps

Security

- 56 bit DES Encryption

Mains Voltage

- 100—240V 50/60Hz

Safety and Regulatory

- Energy Safe Victoria
- C-Tick

Utility Software Operating Systems

- Windows® 98SE, ME, 2000, XP

Operating Range

- Temperature: 0—55º C
- Humidity: 10—85% non-condensating

Storage Range

- Temperature: -20—70º C
- Humidity: 5—90% non-condensating

8. TROUBLE SHOOTING

No Indicators are on

- Check mains power.

Power LED (top) is off but other LED indicators are on

- Possible adapter fault.

Power Line Communications LED (middle) is off

- This is normal for the first adapter installed. Its LED should come on when a subsequent adapter is added to the network.
- Check that the Network Name has been correctly set. Adapters with different Network Names will not communicate with each other. Check for a common Network Name by plugging the adapters in adjacent or near adjacent power points. If PLC LED indicator lights then a common Network Name has been set.
- If after confirming the Network Name the adapters are moved back into position but the PLC LED remains off, then ensure that the adapters have been plugged directly into a wall mounted power point. Failing resolution, it is possible that the mains wiring at the required locations may be unsuitable, please try again using different power points.

Ethernet LED (bottom) is off

- Check the Ethernet connection.

All LEDS are on or blinking but the attached devices are not communication.

- When all three LEDS being are on or blinking the PowerLine 85 network has been established and operational. At this stage you will need to check the configuration of the attached Ethernet devices to ensure that they are correctly configured. Generally, if two pieces of Ethernet equipment can communication with each other over standard Ethernet cabling then they are correctly configured for use in a PowerLine 85 network.